

Environmental Protection Agency
EJ Collaborative Problem Solving
WE ACT for Environmental Justice
Harlem Green Action Zone
WORKPLAN

I. Project Title and Project Purpose Statement

- **PROJECT PURPOSE STATEMENT:** The HGAZ Initiative purpose is to catalyze and sustain environmental quality by reducing environmental exposure to air pollutants and toxic chemicals and developing a strategically-phased plan that brings green benefits to affected neighborhoods for longer term sustainability.

• **PROJECT TITLE:** Harlem Green Action Zone (HGAZ): A demonstration model for community sustainability

• **PROJECT GOAL & SUMMARY:**

The Harlem Green Action Zone Initiative's goal is to catalyze and sustain environmental quality in Northern Manhattan neighborhoods, specifically East, West and Central Harlem, impacted by disparities in air pollution and associated health outcomes by developing and initiating a community-driven environmental sustainability plan.

The Harlem Green Action Zone (HGAZ) will be a replicable model for similar environmental justice communities, nationally. The initiative addresses the need for a comprehensive strategy pertaining to neighborhood sustainability that uses collaborative consensus building, advocacy, and targeted investment of existing resources to reduce harmful environmental exposures, to ensure the retrofit of aging infrastructure and to minimize carbon impacts in order to protect the environment and human health. The initiative will set a bold environmental agenda that will replicate components and performance measures that have been implemented by New York City's PlaNYC initiative that includes a focus on the physical environment (i.e. housing, air quality, parks, water, power, transportation, solid waste, and congested streets). WE ACT's Executive Director and the HGAZ Initiative Project Manager, Peggy Shepard, is one of two EJ advocates who serve on PlaNYC's 20-person Sustainability Advisory Board for the past six years.

The HGAZ initiative focuses on reducing exposure to air pollutants and toxic products in the short term while developing a strategically- phased plan that brings green benefits to underserved neighborhoods for long term sustainability measures and identified outcomes. The HGAZ project builds on collaborative research between WE ACT and three Columbia University entities over the past year that identified HGAZ focus areas, surveyed community response to potential HGAZ priorities, and recommended start-up implementation initiatives based on, "...ease of implementation, multiple co-benefits, low cost and high impact."¹ It also draws from the experience of our 2007 – 2011 EPA CARE Level I and II projects, which brought over 40 community stakeholders to form the Northern Manhattan CARE Collaborative. Our efforts will seed ideas and direction toward short-term solutions that decrease environmental exposure and increase community understanding and involvement in environmental health issues, to longer term solutions with the potential to influence policy, planning and change.

¹ *Harlem Green Zone: A Cooperative Approach to a Sustainable Community*, Columbia University [Gonzalez-Rusiewicz, Z., Koenig, L. Santucci, N.) and WE ACT for Environmental Justice, 12/11/2013

WE ACT will lead a well-managed collaborative strategic planning process of issue identification and consensus building by community members and stakeholders; community and academic capacity building and leadership development through WE ACT's Environmental Health & Justice Leadership Training program which was developed under a former EPA and NIEHS grant; ensuring multi-stakeholder partnerships (many of which are ongoing to reduce environmental exposures); constructive engagement with a broader range of stakeholders where we can leverage additional resources; evaluation and documentation of the process for broad dissemination to other groups considering this kind of initiative. The initiative will comprise a broad sector of Northern Manhattan stakeholders -- including community residents, WE ACT members, community-based organizations; state and local governmental environmental agencies; academics and health-care providers; educational institutions, local businesses, affordable housing developers/managers; financial services; philanthropic representatives; elected officials; and civic organizations – to engage in developing, evaluating and documenting the core criteria and components necessary to operationalize the Harlem Green Action Zone. WE ACT will integrate community capacity building and leadership development to help shape implementation that advances the HGAZ objectives and outcomes.

HGAZ objectives are:

1. Identify and reduce environmental health risks related to air pollution and toxic chemicals experienced by low-income residents in Northern Manhattan.
2. Develop and sustain the capacity and leadership of over 250 community stakeholders to understand and address relevant core environmental issues within the proposed Harlem Green Action Zone.
3. Develop and facilitate a Harlem Green Action Zone Planning Process and HGAZ Council, a group of up to 40 stakeholders including Northern Manhattan residents, businesses, public and private agencies and organizations with shared interests in environmental sustainability, enforcement, environmental health improvement and protection within HGAZ focus areas.
4. Document, evaluate, and communicate the HGAZ model and process to community stakeholders and prospective anchor institutions.

• **PROJECT LOCATION (include city, state and zip code)**

Northern Manhattan neighborhoods of East, West and Central Harlem, New York, NY 10030, 10031, 10034, 10037, 10039

• **RELATED ENVIRONMENTAL related environmental statute(s) from the list in Section I.C., and describe how this project relates to the relevant statute(s).**

The HGAZ strategic collaborative process will engage its partners and participants in research, indoor and outdoor air monitoring, public education, environmental justice leadership training related to:

4) Clean Air Act, Section 103(b)(3): WE ACT will engage in community-based participatory research, trainings, and air monitoring related to the effects and control of air pollution.

5) Toxic Substances Control Act, Section 10(a): WE ACT will participate in research, indoor air monitoring, public education and community capacity building on toxic substances.

The HGAZ collaborative process is relevant to the three statutes and will utilize the diverse methods described above to inform a community sustainability planning process that includes the reduction of community-level environmental exposures; increases community and stakeholder capacity to understand and address core environmental issues and concerns through education and training initiatives; and that seeks short and long-term stakeholder investment in environmental protection, enforcement, and sustainability.

• PROJECT PARTNERS

Harlem Business Alliance; Columbia University, School of Engineering and Applied Sciences; NYC Department of Health & Mental Hygiene; West Harlem Group Assistance; Harlem Community Development Corporation; NYS Department of Environmental Conservation; Columbia Center for Children's Environmental Health; NYC Mayor's Office of Long term Planning and Sustainability; Natural Resources Defense Council; New York City Department of Environmental Protection.

II. Environmental and/or Public Health information about the Affected Community

The identified environmental issues are air quality and indoor environmental toxins such as lead, nicotine, mold, mouse and cockroach allergen, respiratory and infectious disease-causing agents, dichlorobenzene (DCB), polycyclic aromatic hydrocarbons (PAH), Bisphenol A (BPA) and phthalates. However, our project engages in emerging research that may lead to the identification of additional exposures that are linked to adverse health outcomes. We expect short-term outcomes to include the reduction in hazardous indoor environmental exposures of residents through community education and leadership capacity building; training in self-protective measures; and stronger stakeholder engagement in planning and implementing the Harlem Green Action Zone community sustainability model.

WE ACT is based in Northern Manhattan which comprises East, Central and West Harlem, and Washington Heights/Inwood – with a population of over 557,202 living in 7.4 square miles. Forty-nine percent (49%) of residents in Northern Manhattan earn less than \$35,000 a year; 26% receive Food Stamps. Socioeconomic indicators for the 2010 census show that 37.5% of residents identify as African American, 48.95% as Latino. While 2010 census figures indicate an overall decrease in area population [11%], WE ACT's environmental health organizers report contact with a growing community of "uncounted" immigrants living in sub-standard, housing conditions, and who are less likely to seek or obtain information that would help them avoid hazardous exposures.

Environmental health hazards in Northern Manhattan relate to air, water, land use, solid waste management, and toxic chemical exposures. Northern Manhattan holds a long record of severe environmental health hazards that result in high morbidity and mortality rates. Historically, substandard building environments, zoning decisions, inequitable environmental enforcement, poor risk communication, and low environmental literacy contribute to escalating health disparities, and high morbidity and mortality rates. Though the policies and practices that characterized urban planning up to the 1960's are, for the most part, mitigated broadly by more stringent laws, regulatory policies and enforcement codes, those policies have not protected residents at the neighborhood level where systemic dynamics continue to support unhealthy conditions that compromises the public health in Northern Manhattan.

Northern Manhattan neighborhoods are bounded by two highways that experience annual traffic volumes of approximately 300,000 vehicles per day. The George Washington Bridge (102 million vehicles per year,

making it the world's busiest motor vehicle bridge²) leading into Northern Manhattan at 181st Street, and the Triborough Bridge traffic (200,000 vehicles per day) that spills into the 125th Street corridor on the East are major truck arteries that criss-cross a mix of Northern Manhattan residential and commercial blocks heading to downtown Manhattan. Our community is also home to a diesel-fueled Amtrak rail line, five out of six of the diesel bus depots operated by the New York City Transit agency (NYCT) of the Metropolitan Transportation Authority (MTA), a large NY/NJ Port Authority bus station and two sewage treatment plants. High-density public housing complexes are co-located with a state Superfund site, and industrial and waste-related land uses (e.g. auto body shops, dry cleaners and abandoned gas stations with leaking underground storage tanks creating oil spills) that pollute the soil and groundwater extending into these residential areas creating urban brownfields -- a legacy of land use policy that can be traced to exclusionary zoning practices and residential segregation.

Housing is a critical environmental concern in Northern Manhattan which contains a prevalence of aging, deteriorating housing stock, characterized by exposure to lead, mold, structural materials and deficiencies, and pesticides that can affect respiratory health, neurological functions, and fuel the proliferation of allergens from rodents and cockroaches. According to the NYC Department of Health & Mental Hygiene 2011 Report, 60.69% of Northern Manhattan housing units were built before 1950 under regulations that permitted the use of hazardous materials. These conditions, exacerbated by ignorant and negligent practices in residential and nearby commercial facilities correlate with high-risk health conditions among low-income families for whom substandard, and often overcrowded, housing is the only affordable option.

Neighborhood retail corridors profit from the sale of cheap-goods, beauty products and high chemical intensity services that use and sell products containing toxic chemicals linked to cancer and harm to the immune, organ and reproductive systems. We find these chemicals in children's toys, costume jewelry, household furnishings, cleaning supplies and personal products. Beauty supply chains, in particular, profit from a disproportionate number of products marketed to women of color (hair and skin products) that contain highly toxic chemicals, such as formaldehyde. According to market researchers, women of color spend an estimated \$5.7 billion a year on beauty and salon products and services -- twice as much on skin care than women in other demographics. At least one hair product, Brazilian Blowout, was recently issued a hazard alert by the Occupational Health and Safety Administration due to high formaldehyde levels. A recent mapping of 99-Cent stores where high toxicity products are sold indicates that these stores tend to proliferate in low income communities but are predominately located in African-American neighborhoods.

Northern Manhattan rates of asthma morbidity and mortality are the highest in New York City -- six times higher than the national average. Residents have as much as a 23% higher vulnerability rate of health risk from environmental exposure due to poverty; and a 12.2% higher rate of exposure to Indoor Allergens resulting from Mice or Rats in the Buildings and Cockroaches in the Home {35.6% vs. 23.4%}.³ Furthermore 60 to 74% of children live in fair to poor quality housing, where socioeconomic constraints and lack of adequate maintenance lead to disproportionately high incidences of pest infestation and exposure to environmental hazards.⁴ Like most Americans, residents of Northern Manhattan spend over 90% of life indoors where, "concentrations of some pollutants are often 2 to 5 times higher than typical outdoor concentrations."⁵

² http://en.wikipedia.org/wiki/George_Washington_Bridge

³ New York City Department of Health, 2011 Housing and Health Report.

⁴ Take Care Inwood and Washington Heights: NYC Department of Health and Mental Hygiene; 2006.

⁵ U.S. Environmental Protection Agency. 1987. The total exposure assessment methodology (TEAM) study: summary and analysis. EPA/600/6-87/002a. Washington, DC.

Columbia Center for Children's Environmental Health research confirms the high prevalence of poor respiratory health in Northern Manhattan communities, with 35% of children being diagnosed by a local physician as having or maybe having asthma.⁶ Short term and long term health effects such as rates of preterm birth and low birth weight, developmental delays, asthma, obesity and metabolic disorders are increasing and are highest in low income communities of color. Developmental disorders are attributable in large part to environmental and social stressors that co-occur in less advantaged populations. Additional findings from CCCEH strongly suggest that, as with lead, reduction of exposure to air pollutants, polycyclic aromatic hydrocarbons or PAH, pesticides, and the flame retardants, PBDEs, will have substantial benefits to public health.

III. Organization's Historical Connection to the Affected Community

Twenty-five (25) years of educating and mobilizing a base of over 550,000 Northern Manhattan residents on environmental issues affecting their quality of life has led to WE ACT'S current position as a nationwide leader in environmental justice. WE ACT's persistent advocacy on behalf of the urban poor and people of color has resulted in a respected record of influencing and advancing fair and equitable federal, state and local policies and practices. We have trained hundreds and informed thousands of New Yorkers so they can take action as civic leaders in efforts that have changed community environmental practices, enacted legislative policies and reforms, and have led to the enforcement of environmental regulations that benefit the entire New York City population. Our success has been built on educating, training and mobilizing community residents, multi-stakeholder task forces and coalitions with the knowledge and skills to sustain public support for environmental health and justice issues. Where necessary, we have sustained public advocacy for more than a decade to reach impactful policy changes.

WE ACT was founded in March 1988 as a result of community struggles over the operations of the North River sewage treatment plant located in West Harlem at the Hudson River. After eight years of organizing and building community capacity to understand and advocate on waste treatment and air quality issues, the city committed \$55 million to fix the brand new "state of the art" plant. WE ACT, NRDC and community plaintiffs won a lawsuit that resulted in City/State consent agreement to fix the brand new plant, and, in 1993, a \$1.1 million settlement that formed an environmental benefits fund for West Harlem. Also in 1988, WE ACT sued the Metropolitan Transit Authority (MTA) for building the 6th of seven Manhattan depots in uptown neighborhoods which house one-third of the largest fleet in the nation within 7.4 square miles. WE ACT's 18-year campaign, and 1994 Title VI administrative complaint against the MTA resulted in more stringent bus pollution standards, the MTA's switch to hybrid electric buses, and 95% reductions in tailpipe emissions, citywide. These community struggles catalyzed our 17-year research partnership with Columbia Mailman School of Public Health to document community-level environmental exposures and health outcomes by engaging residents and youth in community-based participatory research. Findings have been published in Environmental Health Perspectives and the journal of the American Public Health Association (APHA).

The Mother Clara Hale Community Task Force (MCHCTF) provides a recent example of WE ACT's ability to educate, train and sustain. The MCHCTF celebrates 8 years of involvement from over 40 individuals who spearheaded the vision and execution of New York City's first green bus depot, scheduled to open in

⁶ Pagnini DL, Reichman NE. Psychosocial factors and the timing of prenatal care among women in New Jersey's HealthStart program. *Fam Plann Perspect* 2000;32(2):56-64.

Fall 2014. The Task Force is composed of residents who live in Central Harlem's Esplanade Gardens, a middle-income high rise housing development with 1,870 apartments that are adjacent to the Mother Clara Hale bus depot that will house 200 buses that used to park and idle alongside the housing development's walkways.

WE ACT has educated and trained 30 community organizations that supported our lead poisoning outreach, education, testing and advertising campaign. We took the message of lead poisoning prevention to over 500,000 New Yorkers through bus ads, workshops and outreach to parents and day care centers. By organizing parents in key council districts, we helped pass amendments to Local Law 1 that has significantly reduced lead poisoning among the most vulnerable New Yorkers. Other WE ACT policy victories and accomplishments include:

- A 10-year stakeholder collaboration organized and facilitated by WE ACT, convened a community design charrette and process that pressured the city to drop plans for a hotel at West Harlem's waterfront and to build the waterfront park envisioned by the community. The West Harlem Piers Park opened at 125th Street at the Hudson River in 2008.
- The 80-member *NYS Transportation Equity Alliance (NYSTEAL)*, founded by WE ACT, successfully advocated for \$4 billion in new transit funding, a significant increase over past years.
- New York State legislation that banned the harmful chemical Bisphenol A (BPA) from baby bottles and sippy cups (2010) was achieved by the statewide Just Green Partnership. WE ACT is a steering committee member and secured our Harlem state senator as the chief sponsor.
- Successful suit against the Environmental Protection Agency (EPA) for failing to protect children from toxic chemical rat poisons, in partnership with the Natural Resources Defense Council. Over 4,000 signatures collected during a 2-day canvassing effort to repurpose the deteriorating 135th Street Marine Transfer Station (November 2013) which was closed as a result of a 40-organization Northern Manhattan coalition organized by WE ACT's *Fair Share not Lion's Share* campaign.
- Organized the first national conference on Climate Justice in 2009 co-hosted by the 31 member Environmental Justice Leadership Forum on Climate Change which WE ACT founded and facilitates. Lisa Jackson was keynote speaker at the 2-day conference attended by 400 advocates at Fordham Law School.

WE ACT is broadly regarded and entrusted by the Northern Manhattan community as a thought-leader and action-based advocate on environmental health and justice issues.

IV. PROJECT DESCRIPTION

The HGAZ initiative seeks to achieve the reduction of hazardous exposures caused by air pollution, mold, pest allergens and toxic chemicals in household and personal products. We will achieve these results based on the methods and activities as they relate to project objectives and the seven *Collaborative Problem-Solving Model (CPS Model)* elements, as follows:

The objectives, methods and activities described build *on current and ongoing* multi-stakeholder partnerships and community collaborations, research, campaigns and initiatives to reduce hazardous exposure in Northern Manhattan. The methods and activities support the overwhelming impact of indoor and outdoor air quality as it relates to public health. The research and academic partnerships, community capacity building, outreach and education activities will inform the development of the Harlem Green Action Zone, and its effectiveness in communicating opportunities for intervention at the local and systemic level

that can have a positive impact on health while providing data to enhance environmental curriculum and a foundation for evidence-based community empowerment strategies.

OBJECTIVE 1. Reducing environmental health risks among 100 low-income residents in Northern Manhattan.

WE ACT, in partnership with multi-stakeholder groups, is involved in collaborative co-research projects and multi-stakeholder processes to further identify, characterize and address environmental risks in Northern Manhattan communities. The research projects currently being implemented described below are supported largely with resources and cooperation from scientists, policy advocates, government agencies, community based organizations, residents, tenants – and other Northern Manhattan stakeholders. The results of these collaboratively implemented projects will be used to inform strategies to reduce risk and exposure that will be integrated into HGAZ plan and implementation.

Methods/Activities:

1a. Humidity Research Study. WE ACT's multi-stakeholder research partnership with Columbia University's School of Public Health (PI Jeffrey Shaman) seeks to better understand the impact of humidity and temperature and its association with communicable disease. The research pilot project is taking place with residents of Harlem and the South Bronx. The Humidity Research Study is possible through our multi-stakeholder partnership. The study seeks to characterize temperature and moisture conditions inside the apartment. This seminal work is set up to identify the links between temperature, moisture and disease in the indoor environment. The study builds on the community work with the Mother Clara Hale Community Task Force. **Timeline: 1st Quarter/Year 1.**

1b. Toxic Chemical Source Study. WE ACT, in a multi-stakeholder partnership with the Icahn School of Medicine at Mount Sinai and the University of Medicine and Dentistry New Jersey (UMDNJ) (PI Maida Galvez), will conduct indoor air quality monitoring of 13 East Harlem apartments. The study is helping to identify toxic chemical sources, to better understand the potential exposures to DCB, markers of secondhand smoke and phthalates, and to introduce residents to less – or non-toxic household and personal product alternatives. The Toxic Chemical Source Study is a multi-stakeholder partnership that is building community trust. This is the first time WE ACT is working with this group of East Harlem residents on a local environmental health study. **Timeline: 1st & 2nd Quarter/Year 1.**

1c. Indoor & Outdoor Air Quality Monitoring. Residents of Esplanade Gardens in Central Harlem are also volunteering to participate in outdoor and indoor air and noise monitoring to determine any changes in indoor and outdoor environmental conditions related to the opening of the new Mother Clara Hale Bus Depot adjacent to the development. The residents of Esplanade Gardens made up the majority of the Mother Clara Hale Community Task Force, organized by WE ACT. The Task Force has sustained an 8-year effort to ensure the highest standards of environmental safety for the new bus depot. Monitoring will characterize PM_{2.5} concentrations from surrounding combustion sources. This is a multi-stakeholder partnership with NYC Department of Health & Mental Hygiene, Queens College and community residents that builds upon community capacity as an outgrowth of the Mother Clara Hale Bus Depot Task Force. **Timeline: 1st & 2nd Quarter/Year 1.**

OBJECTIVE 2. Develop and sustain the capacity of over 250 community stakeholders to understand and address relevant core environmental issues within the proposed Harlem Green Action Zone.

Methods & Activities:

2a. Environmental Health & Justice Leadership Training Program. Train 60 WE ACT members (80% reside in Northern Manhattan) in environmental education and leadership training that provides basic knowledge of the environmental statutes, with specific focus on teaching modules related to Clean Air, Healthy Indoor Environments and Toxic Chemicals. Environmental Health and Justice Leadership Training/Northern Manhattan Leadership in Action (EHJLT/NMLIA) curriculum involves experiential learning, a powerful approach to building analytical, conceptual, and problem solving skills, and to developing and maintaining active, independent interest in environmental health and justice. The 8-week program offers opportunities for active participation in local environmental health and justice issues; and serves as a vehicle for increasing community engagement through membership. EHJLT has a train-the-trainer component that encourages information sharing, adopting self-protective behavioral practices that reduce harmful environmental exposures, and civic engagement to advance exposure reduction through policies and practices. The EHJLT builds community capacity and leadership development by engaging community residents in an environmental education curriculum that focuses on local environmental concerns, and provides a peer-to-peer training, and builds participants' organizing, advocacy and mobilization skills. This effort supports Community Capacity Building & Leadership Development by positioning a core group of residents who are knowledgeable about local environmental health concerns, policies and solutions for informed involvement in the HGAZ decision-making and planning process. **Timeline:** 4th Quarter/Year 1 & 3rd Quarter/Year 2.

2b. Housing and Health Conference. WE ACT will inaugurate the HGAZ Initiative at the 2-day conference entitled *Our Housing and Our Health: Creating healthy affordable housing through advocacy, organizing and research* in November 2014. The conference will be attended by 400 community members, advocates, researchers, elected and government officials and invested stakeholders. A mix of plenaries, roundtables and workshops will engage citywide residents and stakeholders. The Friday-Saturday conference will provide a venue that engages, scientists, policy advocates, government agencies, community based organizations, residents, tenants and people with health conditions related to poor indoor environmental conditions to: Discuss impacts of indoor environmental exposures on health; Identify policy endpoints around which to develop campaigns; Identify ways in which current housing policy can be changed to improve indoor environmental quality, safety and health; Position diverse stakeholders to stimulate co-learning between scientists, advocates on questions pertaining to ongoing policy debates and framing the best science into policy proposals; Facilitate discussion on key issues related to indoor environmental health research, advocacy and organizing; Discuss sustainable building strategies toward healthy indoor environments; and Conduct New York City agency accountability sessions.

Co-hosted by WE ACT and the Columbia NIEHS Center for Environmental Health in Northern Manhattan, the conference will facilitate capacity building of stakeholders and low-income tenants and goal-setting by providing a healthy housing campaign agenda with specific policy endpoints that will be integrated into HGAZ strategic planning. **Timeline:** 1st Quarter/Year 1.

OBJECTIVE 3. Develop and facilitate a Harlem Green Action Zone Planning Process and the HGAZ Council -- a broad group of stakeholders, partners, government agency officials and residents -- to develop a plan for community sustainability.

Methods & Activities:

WE ACT's most successful collaborations have created untraditional allies with differing approaches to

common interests in reducing environmental hazards; and who may not be aware of the degree to which their related behaviors and practices affect public health. WE ACT will adopt a basic management and implementation framework to ground a collaborative process that results in the HGAZ Council convening, and meetings to build stakeholder capacity in developing the HGAZ plan. The HGAZ Council will meet as a full body on a quarterly basis, and in monthly committees as necessary. **Timeline: Throughout 2 year project period.**

3a. Develop ground rules for engagement and decision-making based on collaborative principles and the CPS model

As a first step to consensus-building, WE ACT will engage the HGAZ Council in determining and agreeing on a set of ground rules and collaborative principles that can be referenced throughout the process to maintain alignment with project goals, objectives and desired outcomes. **Timeline: 1st Quarter/Year 1.**

3b. Organize Research And Data.

The HGAZ Council will examine and compile research/data on local environmental exposures and related health statistics, root causes, review successful Green Action Zone models, and information related to community sustainability to inform public activities, issue consensus and decision-making processes. Research, data and core metrics and activities necessary for HGAZ implementation will be determined through workshops, roundtables, focused discussions and resources coordinated within the following five HGAZ Council working groups: Green Infrastructure; Energy Efficiency; Ambient and Indoor Air Quality; Climate Change and Community Resilience; and Outreach & Organizing. **Timeline: 1st – 3rd Quarter/Year 1.**

3c. Expand Collaborative Partnerships.

To achieve a comprehensive community stakeholder voice in strategies and decision-making, the HGAZ Council will undertake ongoing outreach to broaden and deepen stakeholder involvement in the planning and implementation process. There are several organizations, agencies and elected officials that expressed interest in the HGAZ project including the New York State Energy Research and Development Authority (NYSERDA) that we will invite to participate. The HGAZ Council will pursue other Northern Manhattan Stakeholders including, but not limited to Little Sisters of the Assumption, the Northern Manhattan Improvement Association, as well as public and private schools, hospitals, faith-based organizations, building developers and managers, and workers' unions. **Timeline: Throughout 2 year project period.**

3d. Build Community Capacity and Stakeholder Engagement

Developing and convening a series of issue-oriented workshops, public meetings, to engage community residents and other stakeholders in investigating, identifying and prioritizing local environmental concerns, determining HGAZ geographic focus areas; and incorporating strategies that address environmental priorities in the HGAZ planning document. These efforts will increase stakeholder's understanding and engagement in relevant core environmental issues and conditions that impact indoor environmental health within the proposed HGAZ and offer near-term risk-reduction strategies. **Timeline: 4th Quarter/Year 1 through 4th Quarter/Year 2.**

3e. Develop and build consensus on the HGAZ plan.

The HGAZ Council will compare and rank all identified stakeholder concerns using agreed upon methods that take into account the severity of the level of risk and exposure, including the vulnerability of Northern

Manhattan's population, and the number of people exposed or the extent of the environment affected, and other existing and emerging community concerns. Through the project, high priority concerns will be established. WE ACT, the HGAZ Council and stakeholder participants will creatively engage in consensus-building to develop the core domains of the HGAZ Strategic Plan. Once the domains have been established, working groups will meet to develop and document a plan related to specific domains. Domains may include exposure reduction, green infrastructure, energy affordability, open space, exposure reduction. The plans may include community data, performance metrics, recommendations for high impact community initiatives, and the identification of anchor institutions and funding sources. **Timeline: 2nd Quarter/Year 2.**

OBJECTIVE 4. Document, evaluate and communicate the model and process to a broad audience of community-based organizations and policymakers.

Methods & Activities:

4a. Documenting the HGAZ Model and Process

WE ACT and the HGAZ council will utilize key materials to document the strategic collaborative planning process. In addition to utilizing the information generated through research done with academic partners and the environmental public health data garnered from NYCDOHMH's Environmental Public Health Tracking Portal (EPHTP) tools will be developed to ensure the replicability of the HGAZ in similar urban communities. The project coordinator and community organizer will take notes at all meetings, provide meeting agendas and utilize photography and video when necessary to capture all phases of the process. At the end of all public meetings and sessions an evaluation of the workshop, training and other will take place in addition to a pre- and post-test to assess knowledge gain. **Timeline: Throughout 2 year project period.**

4b. Communicate the HGAZ Model and Process

In order to communicate during the project period, the project coordinator will distribute notes after each meeting. In addition the information from sign in sheets will be used to create a distribution list of interested stakeholders in the strategic collaborative process and those on the HGAZ council. Each of these stakeholder lists will be informed of upcoming meetings, important information on the progress of the collaborative problem solving process and be informed of opportunities to continue to engage. The HGAZ council will support the coordinator in working through a communication strategy and social media plan. All information will be displayed on the web through WE ACT's relevant social media platforms. At the completion of the process, the report will also be distributed electronically through email and will be available on WE ACT's website. In addition to platforms to engage the print and social media, the community organizer will work closely with the project manager and project coordinator to implement key sessions where people can gain information about the process. This will be done through presentations to community residents at Town hall meetings, elected officials at New York City Council meetings, Northern Manhattan Community Board meetings and distribution to residents, and community advocates. **Timeline: Throughout 2 year project period.**

4c. Evaluating the Model and Process

In order to evaluate the model and process developed during the strategic collaborative planning process, WE ACT will use all of the materials utilized during the documentation process to perform a formative and process evaluation. During the documentation phase, the evaluations of town hall meetings, HGAZ meetings and other sessions will serve as a way to improve and assure that the meetings are meeting our goals and moving the process along. This will occur primarily in the 1st and 2nd quarters of year one of the

project period. The process evaluation will occur in the 4th quarter of year 2 of the project period. This will occur in this portion of the process because, there will need to be some time to bring together documentation and follow up with HGAZ council members. Results of the process evaluation will appear in the final grant report. **Timeline: Throughout 2 year project period.**

- **Outcomes** Our project is aimed at achieving short-, medium- and long-term outcomes outlined in the table below.

Short-Term	Mid-Term	Long-Term
<ol style="list-style-type: none"> 1. Increase the knowledge of over 250 residents in Northern Manhattan on environmental exposures to toxins found in indoor and outdoor air and products. 2. Characterize known and unknown environmental hazards in the indoor and outdoor air quality of Northern Manhattan. 3. Engage over 1000 residents in Northern Manhattan. 	<ol style="list-style-type: none"> 1. Strengthen relationships with multiple stakeholders to leverage resources to create green benefits in Northern Manhattan. 2. Change NYC zoning, building and environmental policies to incorporate green benefits into decision making process. 	<ol style="list-style-type: none"> 1. Increase in safe, affordable, toxic-free products available to all residents of Northern Manhattan. 2. Create an independent entity to manage the Harlem Green Action Zone. 3. Reduce exposures from toxins in products used by residents of Northern Manhattan. 4. Modification of behaviors to reduce exposure to environmental toxins through information gained through the EHJLT.

We expect to have the following outputs from this project: 1) over 1000 people will be reached through outreach related to risk communication 2) develop and increase the capacity of over 250 residents and over 40 organizational representatives for the HGAZ initiative, 3) produce and distribute a report that details the HGAZ model and results of the research activities related to the project and 3) notes, agendas and sign in sheets from the meetings to develop the HGAZ plan. Finally, in order to gauge the success of the project, we plan to ask the following evaluation questions: 1) Did the project collaborators meet the goals of their LOIs? 2) Did the stakeholders gain knowledge through public meetings and through community capacity building activities? 3) Did leadership development lead to behavior change? 4) Did the HGAZ council grow over the course of the project period? 5) Were resources leveraged and new projects developed to implement the HGAZ plan?

ii) A concise description of how the organization and its partners will work together during the year to address the local issue(s).

All HGAZ collaborators have a stated and/or vested interest in environmental issues related to public health in Northern Manhattan. The HGAZ project is an extension of past research and project collaborations with WE ACT, some that have lasted for more than a decade to accomplish substantive reductions in hazardous environmental exposures through cross-sector community engagement in policies and decision-making.

WE ACT plans to continue to build relationships among HGAZ partners through ongoing environmental research projects and health and justice campaigns. WE ACT hopes to empower the HGAZ to become an independent entity that pursues project outcomes with sufficient support to operationalize the HGAZ. Each project collaborator has agreed to the following roles and responsibilities:

1. Designate a representative to the Harlem Green Action Zone Council who will serve as a Point Of Contact throughout the duration of the project.
2. Host or co-host at least one convening with the agreement to cover any technical or refreshment costs associated with meeting presentations or trainings.
3. Provide information and expertise related to the organizations/individuals specific discipline, professional expertise or field of study.
4. Protect the confidentiality of any data collected, information or materials developed as a result of HGAZ, including outcome evaluations, reports or other materials without the expressed or written consent of WE ACT for Environmental Justice, the HGAZ Council or the HGAZ collaborators. Any data shared for this project will be completely confidential, stripped of all identifiers, and sent in aggregate form unless otherwise specified.
5. Nominate and support a staff member from the agency to participate as a member of the HGAZ Council.
6. Participate in monthly phone or in-person meetings.
7. Assist WE ACT, as needed, in complying with any reporting requirements associated with funding, i.e., completion of project evaluation surveys/questionnaires.

Specific roles, as defined by the Letters of Intent and support letters, are as follow:

1. Harlem Business Alliance (HBA) has worked diligently since 1980 to establish Harlem as an economically self-sustaining community. The organization serves as an advocate for the preservation and growth of Harlem's business community. HBA will provide access to Harlem's business network; co-host HGAZ workshops to identify concerns, and opportunities related to green business development.
2. Columbia University, School of Engineering and Applied Sciences, undertook preliminary research for the HGAZ project which resulted in two reports that contain phased-in implementation recommendations.⁷ The School will provide data research and analysis; metrics development; project evaluation tool development and implementation.
3. NYC Department of Health & Mental Hygiene is the New York City government agency responsible for public health. NYCDOH agrees to 1) share course modules on use of the Environmental Public Health Tracking Portal and neighborhood-tailored slide sets on air quality; and 3) share evaluation tools we are developing for users to provide feedback on how to improve the EPHT portal for community audiences.
4. West Harlem Group Assistance is a community based development corporation established in 1971 to revitalize the under- invested West and Central Harlem communities riddled with dilapidated and abandoned buildings. WHGA will provide access to weatherization resources within the HGAZ proposed zones, assist in identifying and seeking solutions to affordable housing development challenges and opportunities within the HGAZ.
5. Harlem Community Development Corporation is a New York State Public Benefit Corporation and subsidiary of the New York State Urban Development Corporation, d/b/a Empire State

⁷ *Application of Linear Programming to Evaluate the Feasibility of the Harlem Green Action Zone Project for WE ACT*, E4705 Studies in Operations Research, Team 6, Columbia University [Choi, S., Chen, M., Opamuratawongse, P., Song, H., Tzen, B.], December 1, 2013; *Harlem Green Zone: A Cooperative Approach to a Sustainable Community*, Columbia University [Gonzalez-Rusiewicz, Z., Koenig, L. Santucci, N.] and WE ACT for Environmental Justice, 12/11/2013.

Development Corporation, was created in 1995 to serve the greater Harlem community, including El Barrio/East Harlem, Central Harlem, West Harlem and Washington Heights. Harlem CDC agrees to be a Meeting Host Site and provide Weatherization and Affordable Housing Development Expertise.

6. NYS Department of Environmental Conservation was created on July 1, 1970 to combine in a single agency all state programs designed to protect and enhance the environment. NYSDEC agrees to serve as a liaison, providing regulatory expertise, information and resources.
7. Columbia Center for Children's Environmental Health has been a 17 year-partnership with WE ACT researching the effect of environmental exposures on health outcomes in Northern Manhattan and the South Bronx. CCCEH will provide research data related to prioritizing opportunities to reduce hazardous environmental exposures among young women in Northern Manhattan and the South Bronx, as well as GIS Mapping.
8. NYC Mayor's Office of Long-term Planning and Sustainability coordinates with all other City agencies to develop, implement, and track the progress of PlaNYC and other issues of infrastructure and the environment which cut across multiple City departments. The Office agrees to provide expertise and information related to quality of life, environmental sustainability, and resilience to climate change in the proposed HGAZ; assist in developing plans and programs based on rigorous analysis and measurable action steps.
9. Natural Resources Defense Council is a national environmental action organization. NRDC agrees to provide expertise on NYC water and recycling data, materials review, and to co-host workshop presentations.
10. New York City Department of Environmental Protection protects public health and the environment by supplying clean drinking water, collecting and treating wastewater, and reducing air, noise, and hazardous materials pollution. NYCDEP agrees to advise and review HGAZ implementation and operational plans in accordance with all applicable City Environmental Quality Review (CEQR) and State Environmental Quality Review (SEQR) regulations.

WE ACT for Environmental Justice agrees to the following role and responsibilities:

1. House and staff the HGAZ collaborative, undertaking all related executive and administrative duties, financial management, recordkeeping and liabilities determined by the project budget and signed grant agreement.
2. Coordinate and lead the development, production and dissemination of outreach, recruitment, promotional and press materials, research, documentation and reporting related to the HGAZ collaborative.
3. Coordinate all group communications and meetings including phone calls and conferences, emails, mailings, in-person conferences/meetings, workshops, discussion and planning sessions, recruiting and establishing the Harlem Green Action Zone Council.
4. Launch an HGAZ dashboard to facilitate communication and information exchanges among project collaborators, and drive the project work plan and scope.
5. Host at least one HGAZ orientation session to introduce the HGAZ Council and project collaborators, and to review and discuss the full project scope.
6. Reimburse up to \$150 to be used to subsidize expenses related to meetings, workshops and presentations.
7. WE ACT will coordinate, complete and disseminate project evaluations specified by the EPA EJCPs grant agreement related to the HGAZ process, planning and documentation based on input and cooperation from all project partners and collaborators.

V. ORGANIZATIONAL CAPACITY AND PROGRAMMATIC CAPABILITY.

WE ACT uses FUND EZ to manage, expend and account for all Federally-funded grant projects. Our Director of Administration and Human Resources administers all project payments through invoicing for outside vendors; and check request forms which must be filled out by project managers prior to all expenditures. As a first step, we upload the final project budget and award information into the accounting system. We then tie all subsequent project accounting information to built-in FUND EZ cost codes that categorize revenue and expenditures by funding source, program area and project area. The system allows WE ACT to monitor project expenditures against restricted funding sources and uses, and generate accurate financial information associated with all report requirements. Passwords are used to ensure different levels of security and accountability. To further prevent the misuse of any funds, the Board Treasurer meets with the Director of Administration/Human resources monthly to consolidate and review all financial accounting. The Treasurer reports to the full Board of Directors on a quarterly basis. WE ACT will use the above accounting system and methods to successfully manage and complete the HGAZ planning initiative. WE ACT has answered the federal congressional survey administered by EPA, which formed the basis for WE ACT's 15-page electronic workbook on managing federal grants.

VI. QUALIFICATIONS OF PROJECT MANAGER

Peggy M. Shepard will act as Project Manager. Ms. Shepard has been a well-known and respected community advocate, resident of Northern Manhattan, and political activist since the mid-1980's. Ms. Shepard co-founded WE ACT in 1988 and became Executive Director in 1994. She is a leading voice and lecturer in the environmental justice movement. She is recipient of the Heinz Award for the Environment, the Jane Jacobs Award for Lifetime Achievement from the Rockefeller Foundation, the Rachel Carson Award from Audubon, and an Honorary Doctorate from Smith College. She is also a member of the NYC Mayor's Sustainability Advisory Board, and several national science, health and environmental advisory boards. Ms. Shepard represents WE ACT and the EJ perspective on the boards of the NYS League of Conservation Voters, Environmental Defense Fund, NY Audubon, the Metropolitan Waterfront Alliance, and Community-Campus Partnerships for Health, and at local, state and federal strategic levels; and receives frequent invitations to lecture at prestigious colleges, universities and international forums.

Ogonnaya Dotson-Newman, MPH, the Environmental Health Director at WE ACT, will serve as the Project Coordinator. As the coordinator for the CARE Collaborative, she successfully sustained a partnership of over 50 partners for almost 4 years. Her background in environmental health provides her with key expertise to facilitate and implement a community-based environmental health assessment that conveys key environmental issues for residents of Northern Manhattan. She has been trained in the PACE-EH methodology and is familiar with qualitative and quantitative methods of research in addition to understanding the connections between the environment, health and justice.

Community Organizer Charles C. Callaway has worked as a WE ACT Community Organizer since 2007. As the Principal Organizer and Facilitator for the Mother Clara Hale Bus Depot Task Force, Mr. Callaway has been responsible for recruiting, mobilizing and involving over 200 community members, and sustaining a 7-year core task force, in designing and operationalizing New York City's first LEEDS green bus depot. He conducts outreach to youth and adult groups, in part, by administering WE ACT's Toxic & Treasures, a tour that provides a history of environmental justice in Northern Manhattan using the sites of key victories and current issues. Charles has played a key role in organizing residents around significant issues in the

Harlem community. He facilitates resident participation in community and town hall meetings ranging from dialogues with elected officials to civic leadership trainings and specific mobilization efforts.

VII. Past Performance in Reporting Outputs and Outcomes

WE ACT has responsibly managed EPA and other federally funded grants for over 20 years. In the past WE ACT has met the requirements of reporting, output and outcomes. Given our expertise and collaboration with academic institutions, WE ACT has set up a number of mechanisms to keep track of progress. In each of these grants we met our objectives and reported our outputs and outcomes through the use of pre and post tests to measure knowledge gain, sign in sheets at all meetings, agendas from meetings, documentation of materials distributed at community fairs and events, the production of outreach and communication materials and finally by turning in all reporting documents required by the EPA. This has been accomplished for the following grants:

1. EPA Grant Number: RE 97214701 Project Title: Northern Manhattan CARE Collaborative Project
Duration: 10/1/2010 – 9/30/2012 **Amount Funded:** \$300,000 **Project Synopsis:** Continuing support of the Northern Manhattan CARE Collaborative as a CARE Level II partnership of broad based stakeholders based in Northern Manhattan, New York City, and New York State to reduce risk from toxic exposures in this community, specifically with relation to solid waste, and pests and pesticides.

3. EPA Grant Number: EQ97223910 Project Title: Community Climate Change Readiness Campaign: Developing a Community-Based Climate Change Water Infrastructure and Health Readiness Plan for Northern Manhattan **Project Duration:** July 1, 2010 – June 30, 2011 **Amount Funded:** \$25,000 **Project Synopsis:** WE ACT's Community Climate Change Readiness Campaign is an initiative aimed at collaboratively working with New York State and City (NYS and NYC, respectively) agencies and with local community members to develop a climate change readiness planning process that addresses Northern Manhattan-specific needs.

4. EPA Star Grant Sub Award: 0023157 (407130-1); **Prime Grant Award EPA STAR Number with University of Pittsburgh:** RD -83457601 **Project Title:** Community Stressors and Susceptibility to Air Pollution in Urban Asthma **Project Duration:** 3/1/2011 - 2/28/2015 **Amount Funded:** \$347,877 **Project Synopsis:** Epidemiologic evidence suggests that chronic stress, which alters immune function and other physiologic parameters (McEwen 1998; Miller 2008), may alter individual susceptibility to the health effects of traffic-related air pollution (Clougherty et al., 2006, 2007; Chen et al., 2008). Social stressors (i.e., poverty) and pollution may be spatially correlated, clustered in lower-income communities (Bullard 1990; Krieger 1990); thus, the most pollution-exposed communities may also be most susceptible (Lipfert 2004). Understanding this interplay is critical to protecting susceptible populations and improving public health (U.S. EPA 2008).

5. EPA Grant Number: EQ97206011-0 Project Title: Building Community Capacity to Reduce Lead Poisoning Hazards **Project Duration:** 10/01/2011 – no cost extension to 06/30/2014. **Amount Funded:** \$50,000 **Project Synopsis:** The goal of this project is to expand scientific knowledge on best practices/methods for the identification of lead poisoning hazards in the home, and to build community capacity to detect and report lead poisoning hazards from multiple sources in Northern Manhattan and the South Bronx.